



Project Manager Combined Arms Tactical Trainers

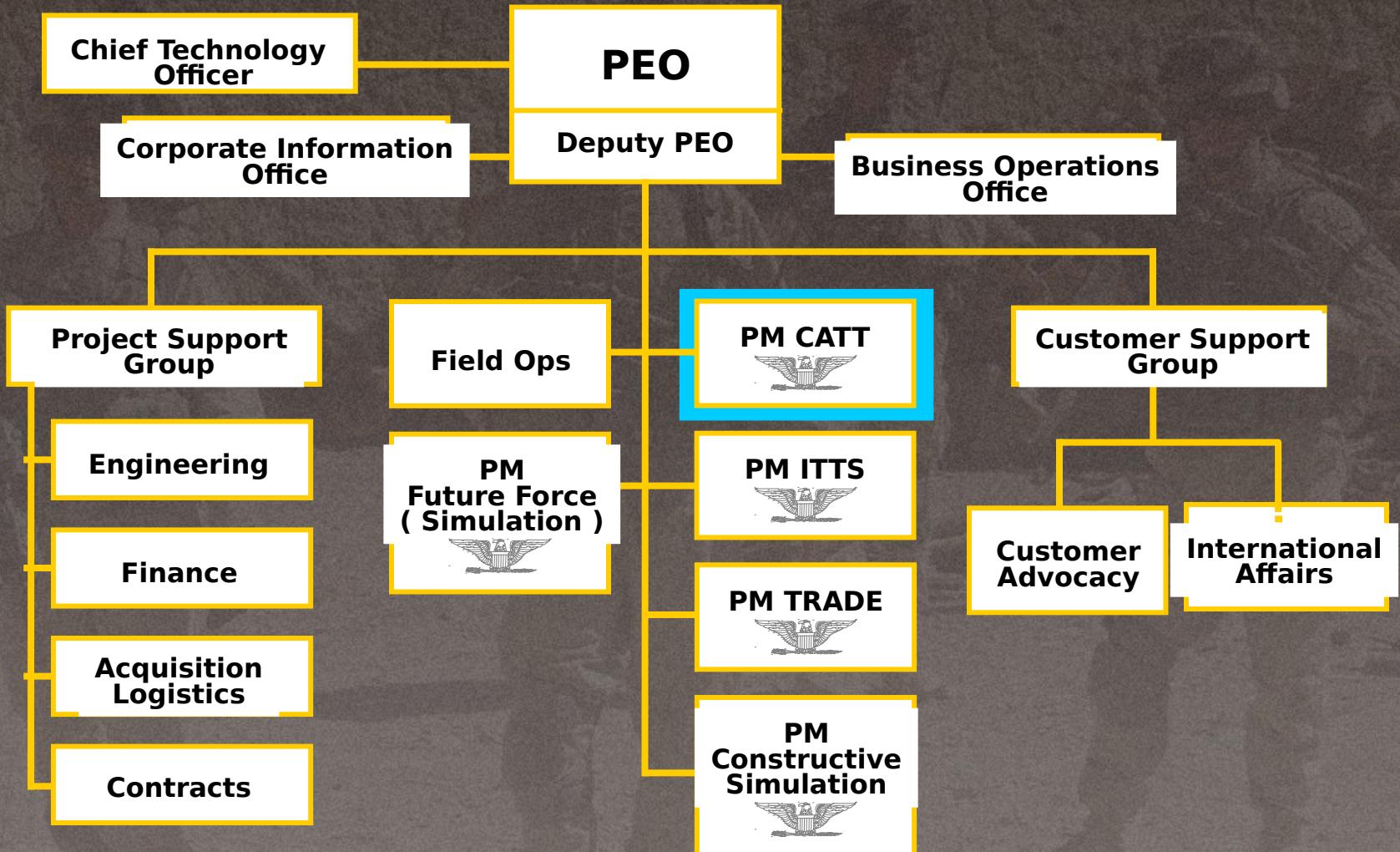
Advance Program Briefing to Industry

*Kevin S. Noonan
Project Manager*





PEO STRI Organization





Project Manager Combined Arms Tactical Trainers

Mission

**Acquire, Field, and Life Cycle Manage the
Virtual Synthetic Environment and
Interoperable Training Aids, Devices,
Simulators, and Simulations (TADSS) to
Support Individual, Institutional, and
Collective Training Requirements for the
Current and Future Force.**



PM CATT Organization

US Army
National Guard
Liaison Officer

Project Manager
CATT = Virtual
COL Kevin S. Noonan

United Kingdom
Ministry of
Defence
Liaison Officer

Assistant
Project Manager
Close Combat
Tactical Trainer
(APM CCTT)



Product Manager
Special Operations
Training Systems
(PM STS)

Product Manager
Air and Command
Tactical Trainers
(PM ACTT)



Product Manager
Ground Combat
Tactical Trainers
(PM GCTT)



GROUND COMBAT SYSTEMS



MLRS



SHORA
D



SANG



SOLDIER



BCT



Army Watercraft



PEO
Aviation



Utility Helicopters



Cargo
Helicopter



Attack
Helicopter



Scout Attack
Helicopters

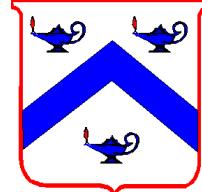


RWM CATT Support to TRADOC Schools



Armor

Ft. Knox, KY



Combined
Arms Center

Ft. Leavenworth,
KS



Artillery

Ft. Sill, OK



USAANVC

Ft. Rucker, AL



Infantry

Ft. Benning, GA



Air
Defense

Ft. Bliss, TX



MANCEN

Ft. Leonard Wood,
MO



Transportation

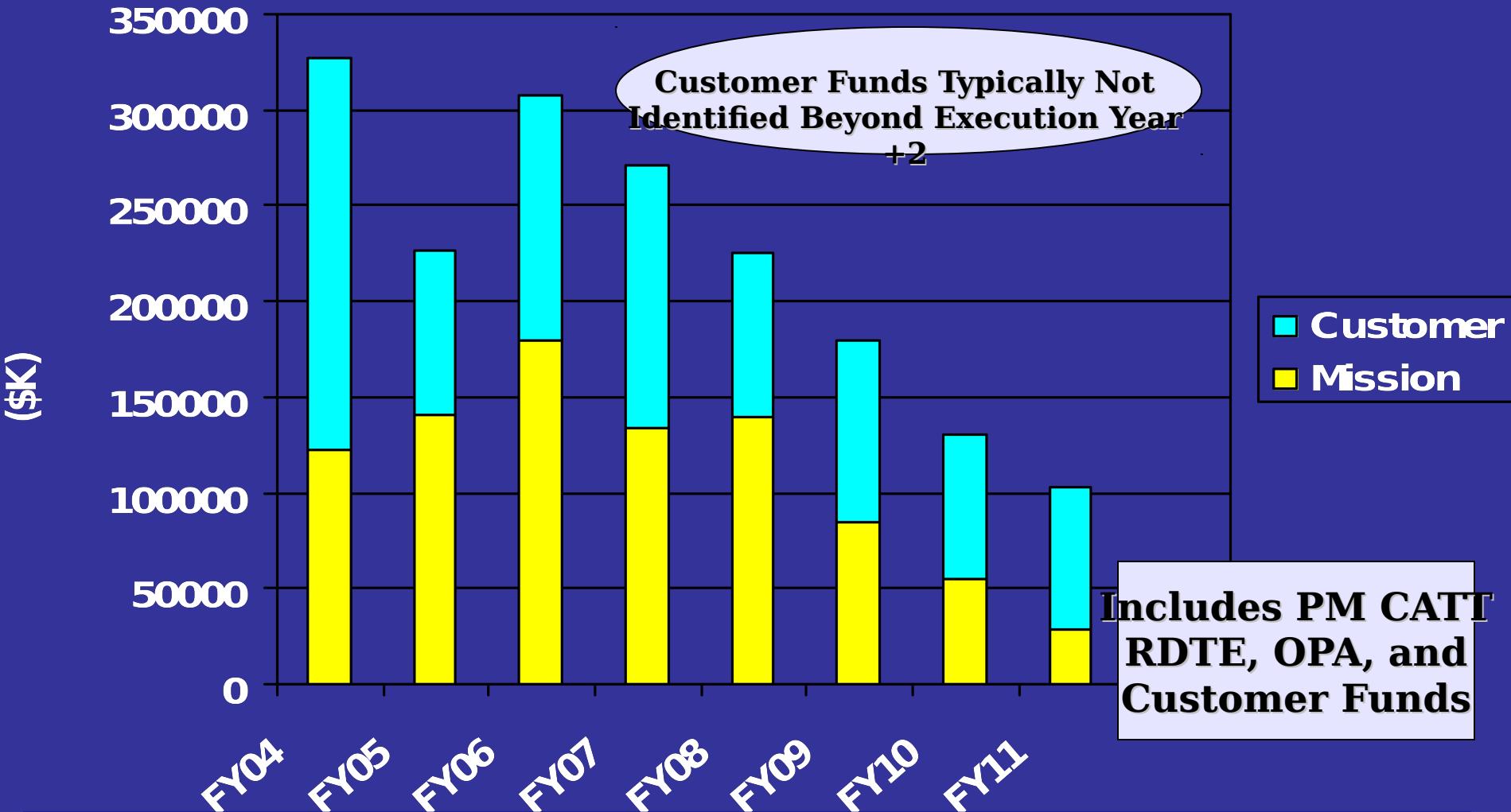
Ft. Eustis, VA



JFCOM



PM CATT Finance Summary



Customer Funding Reflects Comanche Cancellation but Does Not Reflect Anticipated New Work for Other Aviation Contracts / COE Activities



PM CATT

Mission Program Examples

Close Combat Tactical Trainer - ACAT II	CCTT
Synthetic Environment Core	SE Core
Soldier Combined Arms Tactical Trainer	Soldier-CATT
Aviation Combined Arms Tactical Trainer -	AVCATT-A
Aviation Reconfigurable Manned Simulator	
Enhanced Tower Simulator (ETOS)	ETOS
Improved Moving Target Simulator	IMTS
Basic Electronics Maintenance Trainer	BEMT
Engagement Skills Trainer 2000 (EST)	EST 2000
Call For Fire Trainer	CFFT
Laser Marksmanship Training System (LMTS)	LMTS



PM CATT

Customer Program Examples

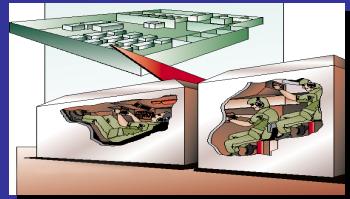
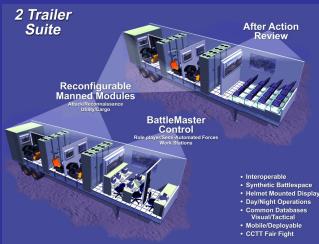


AH 64A CMS	AH 64A CMS
LSMP (CH-47D) - Lift Simulator Modernization Program	LSMP (CH-47D)
LSMP (UH-60A/L) - Lift Simulator Modernization Program	LSMP (UH-60A/L)
Additional BlackHawk Flight Simulator	ABHFS
Maritime Integrated Training System	MITS
SABOT (Bradley Advanced Training System (BATS)	SABOT (BATS)
Recognition of Combat Vehicles - Virtual (ROC-V)	ROC-V
SIMNET Re-Host for NGB	SIMNET Re-Host
STRYKER Mobile Gun Sys Adv Gunnery Tng System	MGS AGTS
STRYKER Anti-Tank Guided Missile Basic Skills Trainer	ATGM BST
STRYKER Remote Weapons Station Table Top Trainer	RWS TTT
STRYKER (Common) Driver Trainer	DT
STRYKER Mainenace Training System	MTS
Abrams Desktop/Hands-On Maintenace Trainers	DT/HOT
Advanced Gunnery Training System	AGTS
COFT-Advanced Gunnery Training System	C-AGTS
Guard Unit Device Full-Crew Interactive Simulation Trainer	GUARDFIST II
Light Assault/Attack Reconfigurable (LASAR) Combat Mission Simulators	LASAR CMS
MH-47G & MH-60 Combat Mission Simulators	MH-47G & MH-60 CMS
Special Operations Aviation (SOA) Combat Mission Simulator	SOAMSMS
SOF Air Ground Interface Simulator (SAGIS)	SAGIS
Special Tactics Air Traffic Control Site Support (STATC)	STATC
Special Operations Forces Operator User Station (SOUS)	SOUS
Special Reconnaissance Simulator (SRS)	SRS
FMS Czech Rep GUARDFIST II	FMS Czech
FMS EGYPT	
FMS KUWAIT	
FMS SANG	
FMS SAUDI	



Today → Tomorrow

Collective/Combined Arms/Specialty Tasks



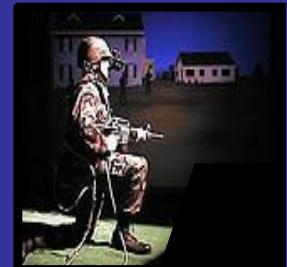
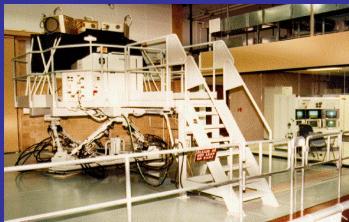
Embed In
Tactical Systems

Seamless Interfaces

Across
Virtual, Constructive & Live



Specialty and Focused Training Tasks





PM CATT Focus Areas

- **Interoperability Design and Solutions**
- **Visual Systems - Smaller, Faster, Cheap**
 - **Helmet Mounted Display Technology**
- **Embedded Technologies and Concepts**
- **Semi-Automated Force Capabilities**
- **Rapid Database Generation and Updating**
- **Cross-Domain, Multi-Service and Joint**

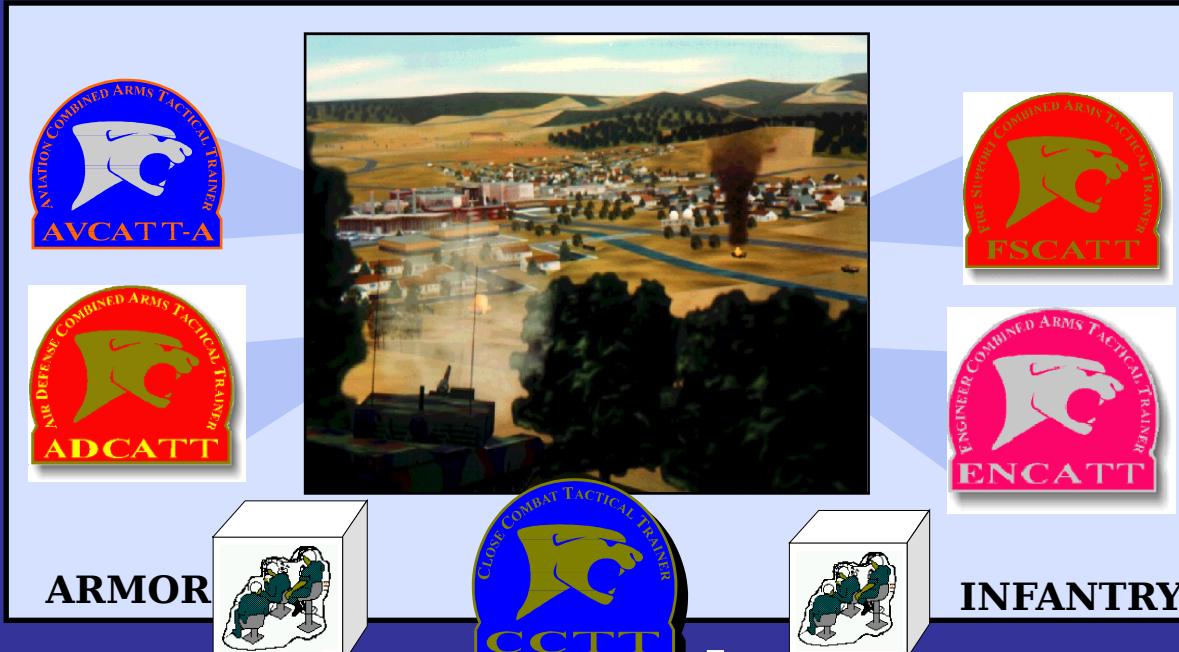


Assistant Project Manager

(APM)

Close Combat

Tactical Trainer (CCTT)



ARMOR

INFANTRY

Mission: Provide Focused Management of the Close Combat Tactical Trainer (CCTT) Program To Meet Program Cost, Schedule, and Performance Requirements and to Produce a Reusable Synthetic Environment For Future CATT and Other Virtual Training Systems



APM CCTT Customer Base



Army PMs



GROUND COMBAT SYSTEMS

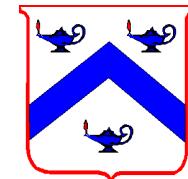


BCT



SOLDIER

Other Customer S



TRADOC



Combined Arms Center

Ft. Leavenworth, KS

Ft. Knox, KY

Artillery

Ft. Sill, OK

Infantry

Ft. Benning, GA

MANCEN

Ft. Leonard Wood, MO

Air Defense

Ft. Bliss, TX



APM CCTT Current and Future Projects

<u>Project</u>	<u>Contractor</u>	<u>Sub</u>
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Current:

CCTT Production	LMSTS	Cubic, RGB
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SIMNET Upgrade	Cubic Acusoft
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CCTT Software Support	AST	SAIC, E&S
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Future:

Soldier-CATT	TBD
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SE Core	TBD
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Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Soldier-CATT will provide a dismount-centric, combined arms, collective training capability to prepare soldiers and leaders to fight effectively throughout the full spectrum of military operations in the



Soldier - Combined Arms Tactical Trainer (Soldier CATT)

Semi-Automated Forces Workstations



Battalion Command Group



Terrain Databases

- ✓ Kosovo
- ✓ Central Germany
- ✓ NTC
- ✓ Ft Hood
- ✓ Korea
- ✓ Grafenfels
- ✓ Ft Riley
- ✓ (Terrain DBs already available in CCTT)
 - Urban Operations
 - SBCT Home Stations
 - JRTC
 - Infantry, Ranger, SOF
 - Caspian Sea

Soldier-Leader Simulator “Virtual Warrior”



Reconfigurable Vehicle Simulators



Gunner positions added for MGS, ATGM, and BFV

Multifunctional Workstation

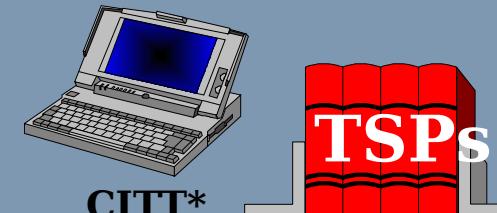


Master Control Console/ AAR Workstations



Exercise Initialization Files
Rapid Structured Offsite Scenario Development

Exercise Development



CITT*

*CITT - Commander's Integrated Train



Soldier - Combined Arms Tactical Trainer (Soldier CATT)

Description/Requirement

What We Have

Prototype Virtual
Warrior

Prototype
Reconfigurable
Desktop

What We Need

Immersive, Combined
Arms
Virtual Environment

Complex MOUT
Representation

Interoperability with
Other Simulation
Systems

Portable, Self-



Soldier - Combined Arms

Tactical Trainer (Soldier CATT)

Acquisition Strategy

- Development with Production Follow-On
- Unique Solicitation Requirements
 - Reuse of OneSAF & Virtual Databases
 - Integration of Land Warrior
 - Portable system; No fixed facilities
 - Interoperability (Live, Virtual, & Constructive)
- Potential Component Breakout

Contract: TBD

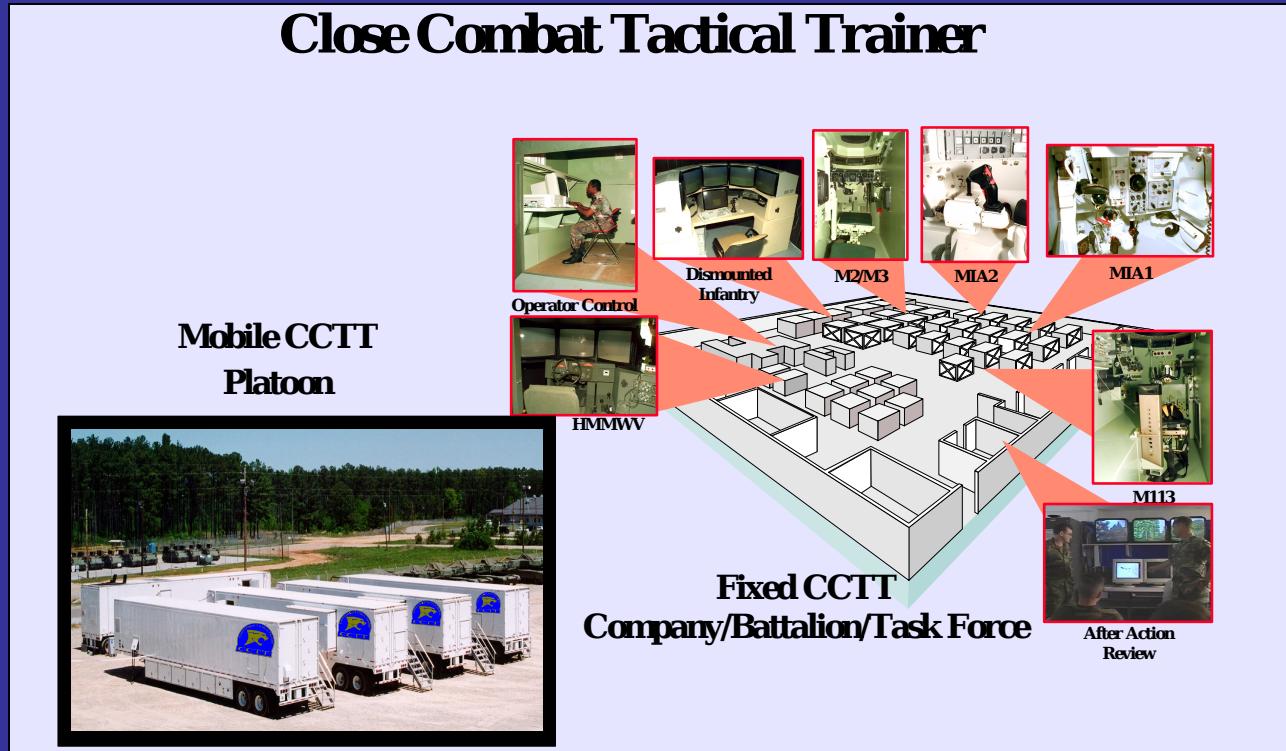
Value: > \$200M

RFP: 4QFY05

CA: 1QFY06



Close Combat Tactical Trainer



CCTT is the first member of the Combined Arms Tactical Trainer (CATT) family of virtual, distributed interactive simulations (DIS) for collective training. It supports the training of Armor, Mechanized Infantry, and Cavalry units for combat operations in the field.



Close Combat Tactical Trainer

What We Have

Fixed and Mobile CCTT
Sites

Operational System in
Production And
Support

Description/Requirement

What We Need

Weapon System
Concurrency

Reconfigurable
Generic Simulator

Live and Constructive
Connectivity

Joint training
interoperability



Close Combat Tactical Trainer

Acquisition Strategy

- Upgrade to CCTT radio hardware to support Vehicle Intercom System functionality
- Gated Training Support Package development
- CCTT Interface to Air Force Simulations
- Live-Virtual-Constructive Simulation Interoperability
- Reconfigurable Generic Simulator to Support Variant Configurations
- Software Support (GSA/8A Set-

Contract: STC

Value: > \$200M

RFP: Multiple

CA: Multiple
Awards



Synthetic Environment (SE) C



Overarching Strategy and Implementation of a Virtual Simulation Environment and Integrated/Interoperable Simulation Products Consistent with the Army's Live, Virtual, and Constructive Integrating Architecture to Fully



Synthetic Environment (SE) C

Description/Requirement

What We Need

What We Have

Virtual
Simulation
Databases

Virtual Training
Support
Packages

Integration of OneSAF
into All Virtual
Simulations

Common, Rapid
Terrain Database
Generation Process

Common TSPs for
Virtual Training

Interoperability With



Synthetic Environment (SE) C

Acquisition Strategy

FY05 - STOC Contracts

- Common Database Generation Contract: STO^C Process
- OneSAF Integration into Virtual Sims
- Cross Domain Interoperability RFP: Multiple
- Common Training Support Packages CA: Multiple

FY06 - STOC Contracts

- Long Haul Connectivity



Product Manager SOF Training Systems (PM STS)



Develop, Field, and Sustain High
Quality
Virtual Training Devices for
Special Operations Forces that Meet
or Exceed our Warfighters'





PM STS Customer Base





PM STS Current and Future Projects

Current Projects Subs

Prime Contractor

• MH-47/MH-60M CMS	CAE USA	SEOS Ltd
• AH/MH-6M Light Assault/Attack Reconfigurable (LASAR)	CAE USA	
• Special Operations Forces Air Fidelity, SOAR Ground Interface Simulator SDS (SAGIS)	NLX LCC	EBC, Tech,
• Special Operations Forces Operator User Station (SOUS)	NLX LCC	SDS
• Special Reconnaissance Simulator (SRS)	NLX LLC	

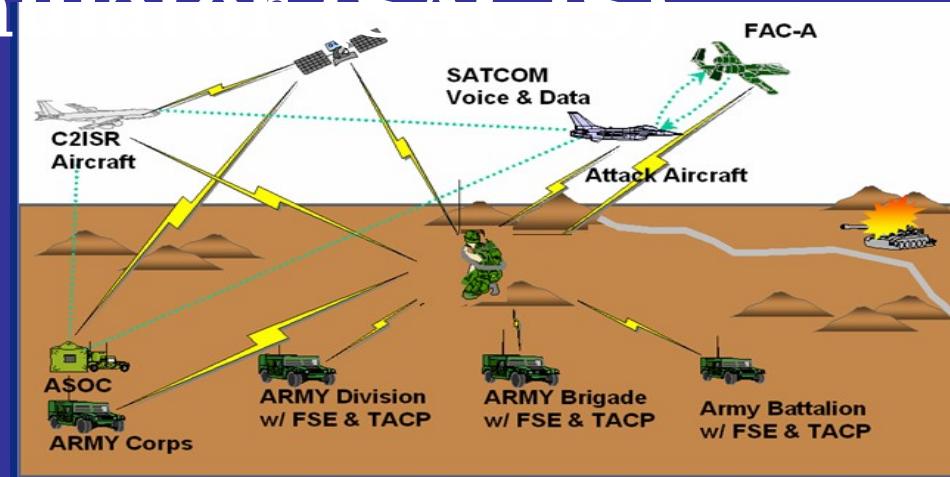
Future Projects



Special Operations Forces Air Ground

Interface Simulator (SACIS)

Interactive, multimedia, instructional simulation system to provide realistic Air Traffic Control (ATC) and Terminal Attack Control (TAC) training and Mission Rehearsal in a distributed interactive mode level training designed for personnel who have completed Basic ATC training



- TAC -- terminal guidance control for airborne weapons delivery on pre-planned and immediate targets
 - Call-for-fire from Army and Navy weapons delivery
 - Conduct Joint Close Air Support (JCAS)
 - Conduct landing zone operations
- Mission Rehearsal -- plan, preview, rehearse, and evaluate specific operational missions
- Deliver 2 Prototype Systems in 3QFY05



Special Operations Forces Air Ground

Interface Simulator (SAGIS) Acquisition Strategy

- Prototype Development Contract Awarded 2QFY04
- Leverage other Virtual Simulators
- Production of 26 Systems in 2 Lots (POM 06 Initiative)

Contract:
STOC

Value: \$50M

RFP: 4QFY05

Award:
2QFY06



Special Recon Simulator

This technology project was initiated to investigate and demonstrate advanced simulation and training technologies to perform Special Reconnaissance Missions.

Key areas of research are in the display, tactile interface, and simulated military equipment.

Requirements

- **Field of view 270 x 200 degrees (threshold), 360 degree sphere (objective) with day, night, IR and FLIR device.**
- **Capability to observe, record and report on waterway, rail, road, highway, trail and airfield traffic.**
- **Must portray friendly, enemy, allied and civilian vehicles, personnel, equipment, ships, boats, submarines and all types of aircraft.**





Special Recon Simulator Acquisition Strategy

- Development Contract Awarded 2QFY04
- Subcontracting Opportunities May Exist With The Prime Contractor (NLX LLC)



Product Manager

Ground Combat Tactical Trainers



MISSION: Develop, Field, and Sustain High Quality Ground Combat and Homeland Defense Virtual Training Devices that are Joint, Interoperable Focused, and Meet or Exceed our Warfighter and First



PM GCTT Customer Base



Army PMs



GROUND COMBAT SYSTEMS



MLRS



SHORA



SANG



SOLDIER



BCT



Other Customer S



TRADOC Schools



Armor

Ft. Knox, KY



Artillery

Ft. Sill, OK



Infantry

Ft. Benning, GA



MANCEN

Ft. Leonard Wood,
MO



Air Defense

Ft. Bliss, TX



PM GCTT Current and Future Projects

- **Product/Program Acquisitions in PM GCTT:**

PM Acquisitions:	Contractor	SUB
• AGTS	Lockheed Martin STS	
• MTS (Abrams, Bradley, Metters)	RTI	Raydon, HIMARS)
• STRYKER MTS	NXL	
• EST 2000	CUBIC SSD	FATS, Inc.
• LMTS	Beamhit	
• FSCATT	L3COM	
• GF II/CFFT	Fidelity Technologies	
• Abrams Tank Driver Trainers	Lockheed Martin STS	
• STRYKER Variant/Common Driver Trainer		TBD (in source selection)
• AFIST XXI	Raydon	
• C-AGTS	CSC Pulau OASIS	Lockheed Martin STS,
• AB FIST	Raydon	
• COFT XXI	Raydon	
• STRYKER MGS AGTS	Lockheed Martin STS	
• ROCV	Under GOVT ARDEC	

- **Future Acquisitions:**
- VERTS



Virtual Emergency Response Training System (VERTS)



Provide an exercise support capability for Emergency Responders and the Incident Command System (ICS) on military installations and for military responders that provide support to civil authorities. Contract efforts may be consolidated or



Virtual Emergency Response Training System (VERTS)

Description/Requirement

WHAT WE HAVE

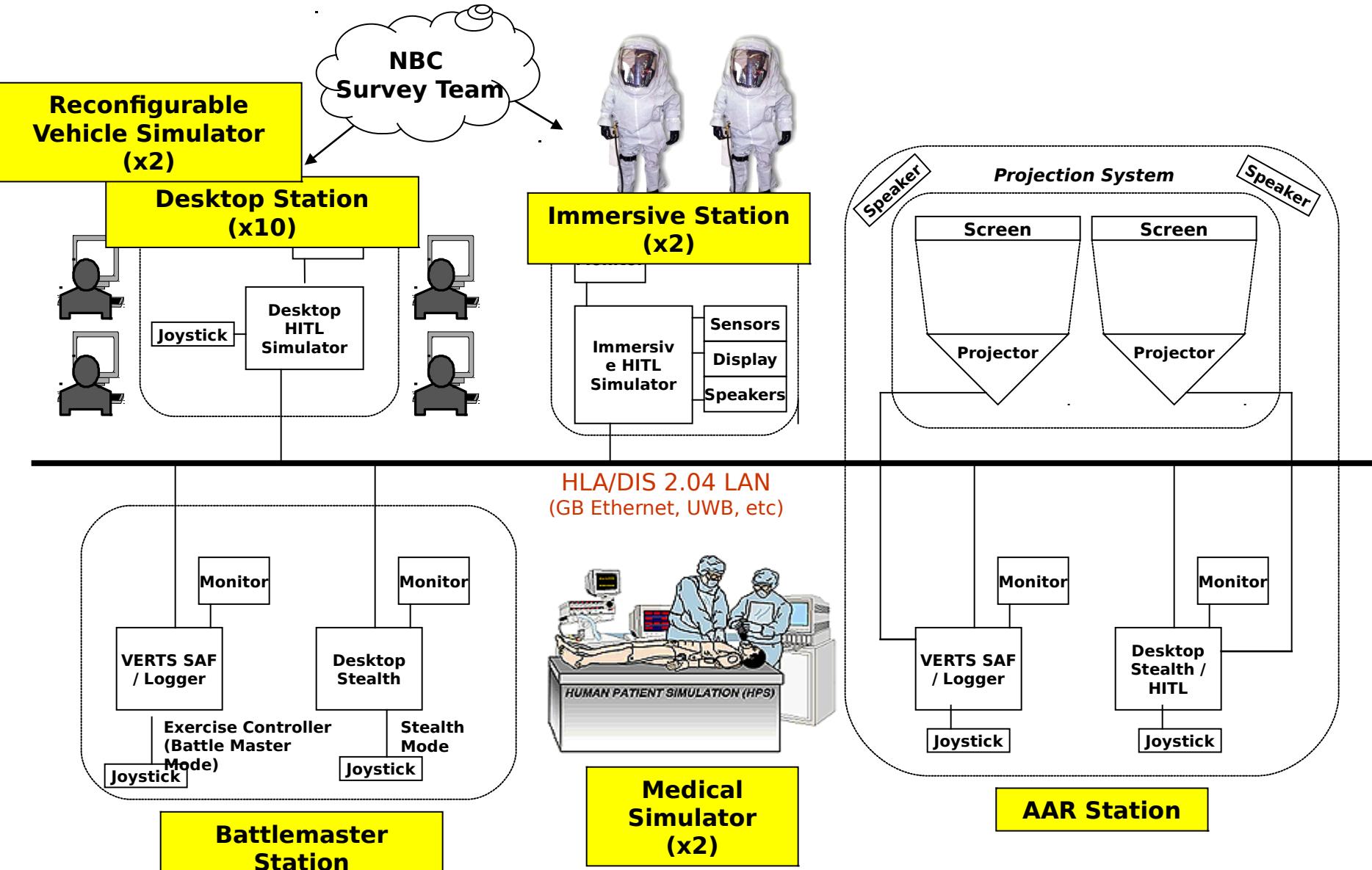
No current capability is available to train the military installation “First Responder” and “Incident Commander”.

WHAT WE NEED

Exercise Support Capability for “First Responders” and “Incident Commanders” on military installations and for the military first responders that provide support to civil authorities under the



Virtual Emergency Response Training System (VERTS)





Virtual Emergency Response Training System (VERTS)

Acquisition Strategy

- “First Responder” & “Incident Commander” training capability
- Homeland Defense mission training capability (Civil Support Teams (CST))
- Leverage and integrate the Integrated MOUT Training System (IMTS)

Contract: TBD

Value: \$2M - 150M

RFP: TBD

CA: TBD

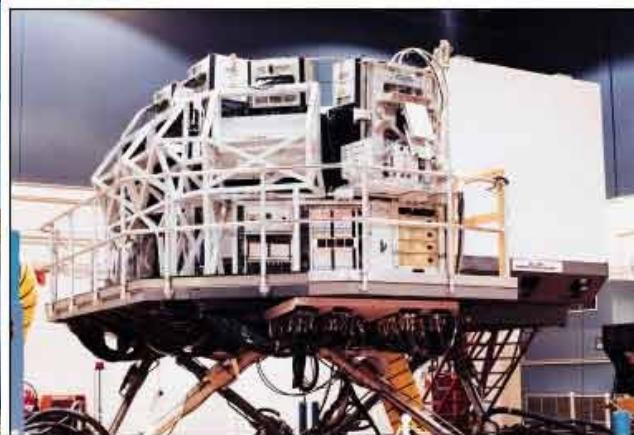


Product Manager Air and Command Tactical Trainers

PM ACTT

The logo for PM ACTT features a stylized silver propeller airplane flying upwards. A yellow propeller is attached to the front of the plane. Below the plane, the slogan "Soldiers - The Bottom Line" is written in a cursive, italicized font. The letters "PM ACTT" are prominently displayed in large, bold, green and blue block letters across the middle of the plane's fuselage.

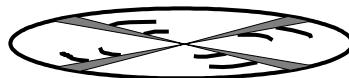
**Develop, Field, and Sustain High Quality
Air and Command Virtual Training
Devices that are Joint, Interoperability-
Focused, and Meet or Exceed our**





PM ACTT Customer Base

Army PMs



PEO Aviation



Cargo Helicopter Attack Helicopter



Scout Attack Helicopters



Other Customer S



TRADOC



USAANVC
Ft. Rucker, AL



Transportation
Ft. Eustis, VA



Air Defense
Ft. Bliss, TX



PM ACTT Current and Future Projects

Current Projects:

Contractor

Sub

Additional Black Hawk Simulators (ABHFS)
**Binghamton
Simulator Co.**

NLX

CATI, SEOS,

**AH-64A Apache combat Mission Simulator
(CMS)**

NGMS

CAE

**Aviation Combined Arms Tactical Trainer-L3 COM DSCI, Kaiser
Aviation Reconfigurable Manned Electro Optical
Simulator**

Lift Simulator Modernization Program (LSMP)
**Binghamton
Simulator Co.**

NLX

CATI, SEOS,

Maritime Integrated Training Program

CSC

Future Acquisitions:

**Armed Recon Helicopter (ARH)/ Light Utility Helicopter
(LUH) Simulators**

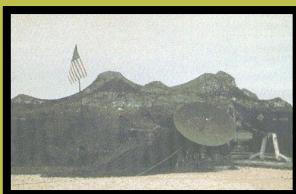
TBD



Aviation Combined Arms Tactical Trainer - Aviation Reconfigurable Manned Simulator (AVCATT-A)



Aviation Collective Training



Conventional TOC



Digitized TOC

Manned Simulators



Apache AH-64 Kiowa Warrior OH-58D

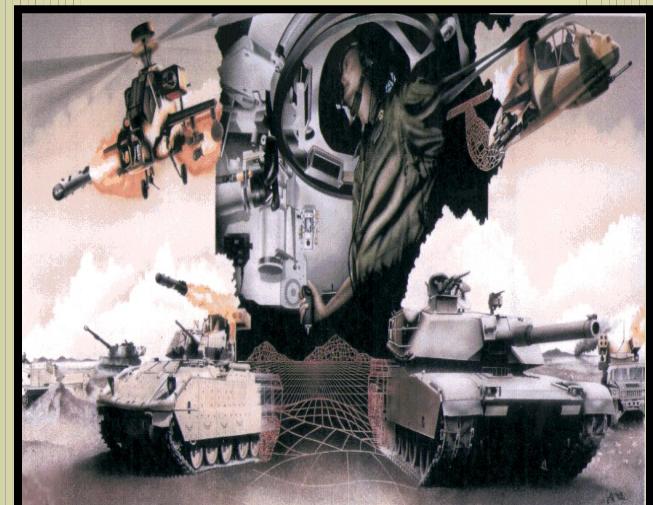


Chinook CH-47 Black Hawk UH-60A/L



Longbow AH-64D
AVN Transformation Aircraft

Synthetic Environment



- Semi-Automated Forces (SAF)
- Terrain Databases
- Validated Models and Algorithms
- Network Design and Protocols
- Training Support Packages

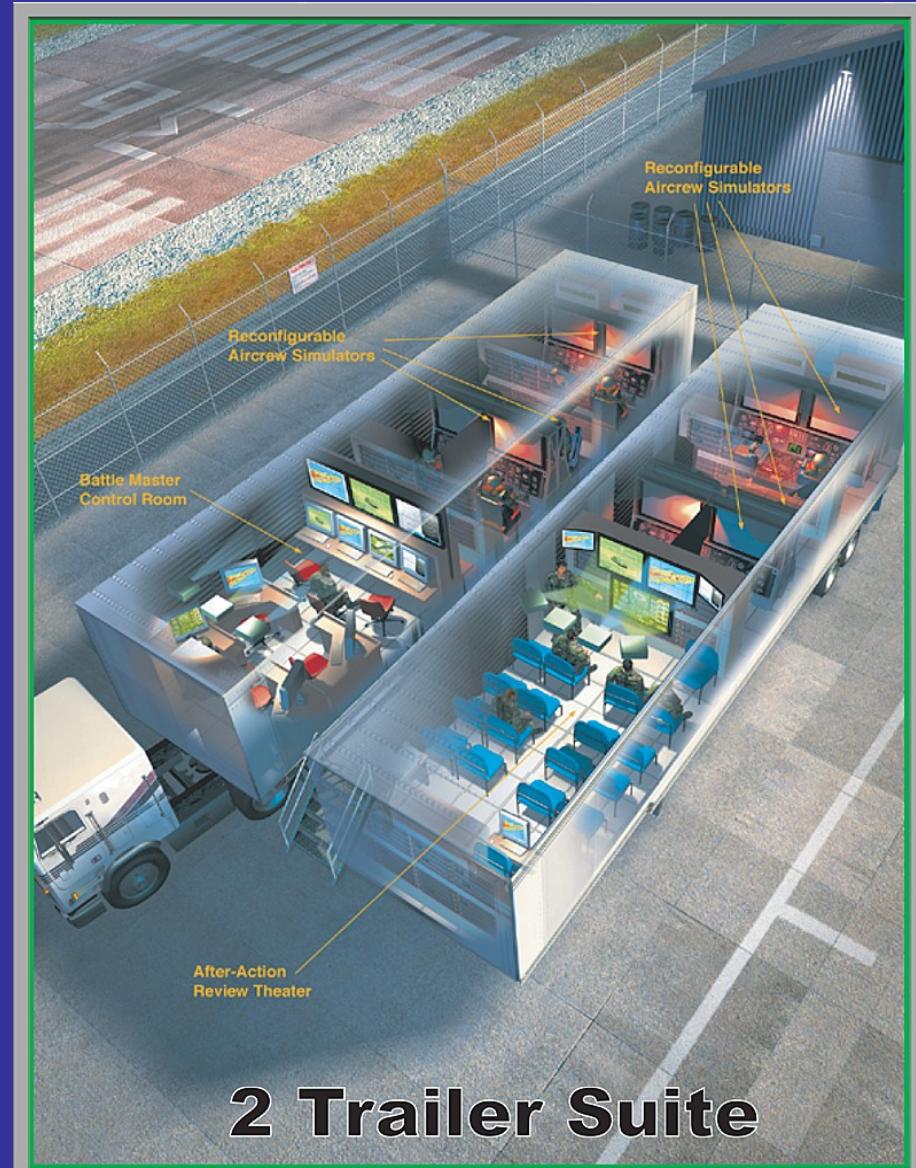


AVCATT-A System

**Combined arms
collective training
and mission
rehearsal system
operating in a
simulated
battlefield.**

**Affordable and
enhanced capability
to train for joint
air/ground arms
operations.**

**Supports
institutional,
organizational, and**



2 Trailer Suite



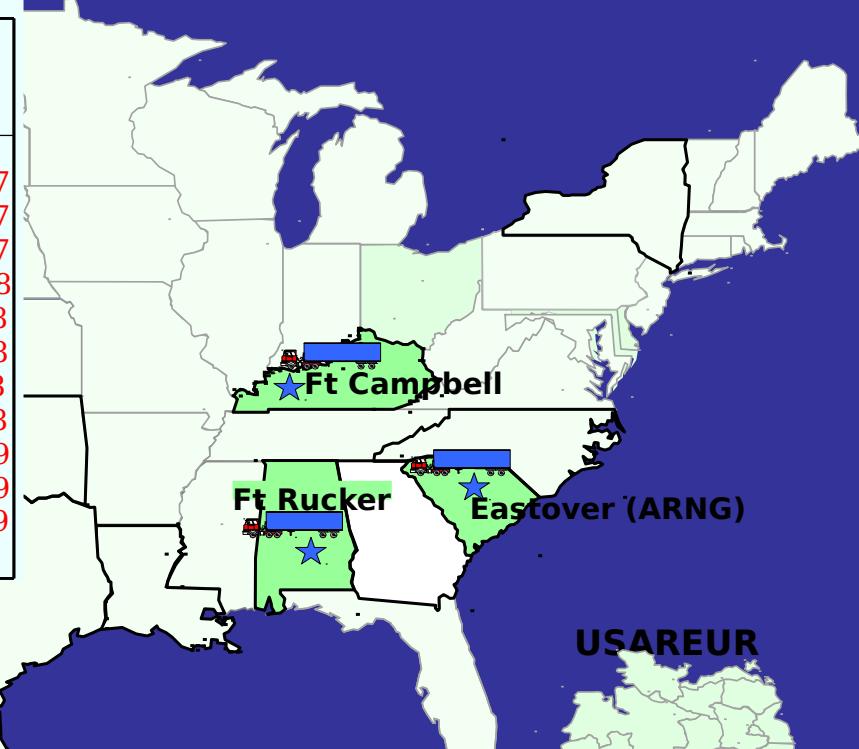
AVCATT-A Fielding Plan



AVCATT-A Distribution List

(Tentative for FY 06+ Dependent on Deployment Schedules)

Location	Delivery Date	Location	Delivery Date
1 Ft Rucker	4QTR03	13 Hawaii	2QTR07
2 Ft Campbell	4QTR03	14 Ft Polk (NG)	2QTR07
3 Eastover, SC (NG)	4QTR03	15 Ft Carson (NG)	3QTR07
4 Germany	4QTR03	16 Smyrna, TN (NG)	1QTR08
5 Korea	4QTR04	17 Ft Knox (NG)	2QTR08
6 Ft Stewart	4QTR04	18 Boise, ID (NG)	2QTR08
7 Ft Hood	1QTR05	19 Houston, TX (NG)	3QTR08
8 WAATS (NG)	3QTR05	20 Syracuse, NY (NG)	4QTR08
9 Ft Drum	1QTR06	21 Ft Campbell	1QTR09
10 Ft Bragg	2QTR06	22 Ft Hood	2QTR09
11 EAATS (NG)	2QTR06	23 Germany	2QTR09
12 Whiteman AB, MO (NG)	1QTR07		



HAWAII

KOREA

Camp Humphries

USAREUR

Giebelstadt

= Fielded (Prepositioned)

Active Army and 11 NG/Reserve Suites



AVCATT-A

Description/Requirement

What We Have:

- Baseline AVCATT-A System In Production (L3COM)
- Multiple Terrain Databases (TDBs)

What We Need:

- Expanded Capabilities



AVCATT-A

Expanded Capabilities

- **Unmanned Aerial Vehicle (UAV) to Aircraft Interface**
- **Classified Operations**
- **Portable Flight Planning System (PFPS)**
- **L-V-C Interoperable**
- **Motion Cueing for Manned Modules**
- **Fixed Facility**
- **Mobile Power Source**
- **Upgraded Helmets**
- **Deployable to remote locations**



AVCATT-A

Acquisition Strategy

- **Acquisition Strategy Under Review**
- **Subcontracting Opportunities May Exist With the AVCATT-A Prime Manufacturer**

Contract: L3COM

Value: > \$150M

Existing Contract with Production Options

Time: FY05-FY11



AVCATT-A Concurrency

Concurrency Description/Requirement

What We Have:

Baseline AVCATT-A System With:

- AH-64A Apache
- AH-64D Longbow

(Lot 4)

- OH-58D Kiowa

Warrior

(CDS 2)

- UH-60A/L

What We Need:

Aircraft Concurrency

- Longbow Block II/III

- CH-47 F

- UH-60 M

- ARH/ LUH TBD

Technical Concurrency (Prevent Technical Glitches)



AVCATT-A Concurrency

Acquisition Strategy

**STOC competition for Future
Concurrency Upgrades
(hardware/software)**

**Subcontracting opportunities may exist
with the AVCATT-A Prime manufacturer
L3COM; and/or Government May Initiate
Separate Contracts for Specific
Capabilities**

Value: >\$30M

Time: FY05-FY09 (excludes ARH/LUH &



ARH/LUH

Description/Requirement

What We Have:

- Emerging Requirements for Armed Recon Helicopter (ARH)/Light Utility Helicopter (LUH)

What We Need:

- TBD (Based on User Need). Anticipate Individual/Collective and Maintenance Trainers/Simulators.



ARH/LUH

Acquisition Strategy

- **TBD (To Be Based on User Requirements)**
- **Anticipate STOC Award to Facilitate Rapid Acquisition**

Contract: STOC

Value: > \$75M (Projected)

Time: FY06-FY11



Project Manager Combined Arms Tactical Trainers

Advance Program Briefing to Industry

*Kevin S. Noonan
Project Manager*





PM CATT Points of

he Contracting Officer is ~~POC~~ for Programs in Solicitation Phase

PM CATT

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Mr. Patrick Spangler, DPM (407) 384-3602

PM ACTT

LTC Allen Borgardts, PM (407) 384-5140
LTC David W. Riggins, PM (Incoming Jun
04)
Mr. Bernie Gajkowski, DPM (407) 384-5175

PM GCTT

LTC Joseph Giunta, PM (407) 384-5160
Mr. Robert Raisler, DPM (407) 384-5162

APM CCTT

Mr. John Foster (407) 384-3814

PM STS

LTC Stan Lewis (407) 384-5223
LTC Russell Hinds, PM (Incoming Jul
04)

